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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,256	05/18/2005	Mitsuyuki Kanbe	KANBE3	5976

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BROWDY AND NEIMARK, P.L.L.C.
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SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

HENRY, MICHAEL C

ART UNIT	PAPER NUMBER
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1623

MAIL DATE	DELIVERY MODE
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08/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,256

Applicant(s)

KANBE ET AL.

Examiner

Michael C. Henry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/27/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The following office action is a responsive to the Amendment filed, 07/27/07.

The amendment filed 07/27/07 affects the application, 10/535,256 as follows:

1. Claims 6,7, 10, 11, 14,15 have been amended.
2. The responsive to applicants' arguments is contained herein below.

Claims 1-15 are pending in the application

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (US 3,912,591).

In claim 1, applicant claims a high pullulan content liquid, which has a viscosity of 2.5 mm²/s or more in terms of a pullulan concentration of 10%(w/w) when determined at 30°C on the Ubelode viscometer method, a common bacterial count of less than 300 cells/g product, a negativity with respect to coliform group, a pH of 4.5 to 7.5, and a pullulan concentration of 20%(w/w) or more." Claim 2 is drawn to the composition of claim 1, wherein said pullulan has a weight-average molecular weight of (MW) of 5, 000 to 500, 000. Claims 3-5, 8, 9, 12, 13 are drawn to said composition which is in aqueous form and wherein said composition further contains disinfectants and bacteriostats such as ethanol.

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Kato et al. disclose a high pullulan content liquid (a bacterial culture medium) which has a final pH of 4.7 and which contains pullulan of molecular weight of 180, 000 from which said pullulan is produced in a yield of 71% (see Table 1-a, col. 3-4, see also col. 2, lines 19-41 and abstract). It should be noted that Kato et al. pullulan content liquid (a bacterial culture medium) contains the pullulan of molecular weight of 180, 000 which is then precipitated and purified as a solid. Kato et al. disclose that adjusting the pH of the culture medium (the liquid) controls the yield and degree of polymerization of the pullulan produced (see col. 1, lines 25-47 and col. 2, lines 19-41). In addition, Kato et al. disclose that the viscosity of the culture varies depends on its pH (see col. 2, lines 19-41). Furthermore, Kato et al. disclose that the pullulan of low molecular weight can be readily purified and converted to products of low viscosity or to maltotriose (col. 1, lines 35-47). Kato et al. also disclose that the bacteriostat, ethanol can be added to the culture medium (col. 2, lines 7-10).

The difference between applicant's composition and the composition of Kato et al. is that Kato et al. do not determine the bacterial count of the composition (the liquid) and the %(w/w) of the pullulan in the composition.

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to have prepared the pullulan composition of Kato et al., and to determine the bacterial count and specific %(w/w) of the pullulan in the composition to produce purified product of low viscosity such as maltotriose, depending on need and availability.

One having ordinary skill in the art would have been motivated, to prepare the pullulan composition of Kato et al., and to determine the bacterial count and specific %(w/w) of the

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pullulan in the composition to produce purified product of low viscosity such as maltotriose, depending on need and availability.

In claim 6, applicant claims a method for transporting the high pullulan content liquid of claim 1, which comprises a step of injecting said high pullulan content liquid into a member selected from the group consisting of various shapes and volumes of containers; tanks; containers loaded into or equipped on trains, ships, airplanes, and trucks; and tank trucks; and (b) transporting said high pullulan content liquid under a temperature condition of 14°C or lower. Claims 7, 10, 11, 14 and 15 are drawn to said method of transporting pullulan under specific temperature conditions.

Kato et al. disclose a method of transporting a high pullulan content liquid, which comprises a step of transporting said high pullulan content liquid at a temperature condition of 27°C (see example 1, col. 3, line 53 to col. 4, line 60). Furthermore, Kato et al. disclose a method of transporting their pullulan into and out of a centrifuge (see col. 4, lines 4-13). It should be noted that the composition would be transported out of the centrifuge at the temperature equal to the temperature at which it was centrifuged and that Kato et al. container must have a shape and volume. Furthermore, it is obvious and common in the art to centrifuge compositions, such as the pullulan composition that are prepared from biologically active microorganism compositions, at temperatures lower than room temperature so as to preserve their activity.

The difference between applicant's method and the method of Kato et al. is the temperature at which the pullulan liquid is transported.

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It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to have used the method of Kato et al., to transport any pullulan liquid at low temperatures such below room temperature, during the process of preparing or centrifuging said pullulan composition, in order to produce purified product of low viscosity such as maltitriose, depending on need and availability.

One having ordinary skill in the art would have been motivated, to use the method of Kato et al., to transport any pullulan liquid at low temperatures such below room temperature, during the process of preparing or centrifuging said pullulan composition, in order to produce purified product of low viscosity such as maltitriose, depending on need and availability.

Response to Amendment

Applicant's arguments with respect to claim 1-15 have been considered but are not found convincing.

The applicant argues that the pullulan product obtained in Kato is not in a liquid form, but is in a solid and dried form, as shown in Example 1 in columns 3-4 of Kato. However, Kato et al. composition is a liquid (a bacterial culture medium) which contains pullulan which is at a final pH of 4.7. From this liquid, the solid form of pullulan is precipitated or obtained. That is, Kato et al.'s liquid like applicant's also contains pullulan and the pullulan in applicant's liquid can also be precipitated to give solid pullulan.

The applicant argues that there is nothing in Kato regarding providing a liquid having a high concentration of pullulan. However, Kato et al.'s liquid (culture medium) does contain pullulan and the silence of Kato et al.'s about the w/w% does not mean that Kato et al.'s liquid is not of high pullulan content.

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The applicant argues that there is nothing in Kato regarding the transporting the liquid of high pullulan content with low energy costs and less equipment than has conventionally been required. It should be noted that applicant claim which is drawn to the method of transporting does not recite any limitation or language that pertains to the transporting said liquid pullulan involving low energy costs and less equipment than has conventionally been required.

The applicant argues that in the process disclosed by Kato, the pullulan is temporarily in a liquid form in the culture medium. However, pullulan in a culture medium is not a pullulan product. On the contrary, the culture medium is a liquid which contains pullulan and thus is also a pullulan composition or product just like applicant's pullulan composition or product. It should be noted that the pullulan is first produced in the culture medium (e.g., at final pH 4.7) before it is precipitated.

Conclusion

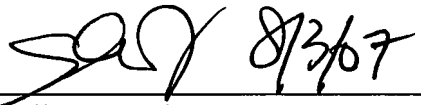
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652. The examiner can normally be reached on 8.30am-5pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Henry



Shaojia Anna Jiang, Ph.D.
Supervisory Patent Examiner
Art Unit 1623

August 3, 2007.